1.(1 pt) There are 322 students in a college who have taken a course in calculus, 215 who have take a course in discrete mathematics, and 186 who have taken a course in both calculus and discrete mathematics. How many students at this college have taken a course in either calculus or discrete mathematics?

2.(1 pt) Find the number of elements in $A_1 \cup A_2 \cup A_3$ if there are 102 elements in A_1, 994 elements in A_2 and 10064 elements in A_3 in each of the following situations:
(a) The sets are pairwise disjoint.

(b) $A_1 \subseteq A_2 \subseteq A_3$.

(c) There are 10 elements common to each pair of sets and 3 elements in all three sets.

3.(1 pt) In a survey of 283 college students, it is found that 68 like brussels sprouts, 98 like broccoli, 58 like cauliflower, 28 like both brussels sprouts and broccoli, 24 like both brussels sprouts and cauliflower, 23 like both broccoli and cauliflower and 11 of the students like all three vegetables.
How many of the 283 college students do not like any of these three vegetables?

4.(1 pt) How many elements are in the union of four sets if each of the sets has 98 elements, each pair of sets share 53 elements, each triple of sets shares 26 elements and there are 6 elements in all four sets.

Prepared by the WeBWorK group, Dept. of Mathematics, University of Rochester, ©UR